

**TECHNICAL INSTRUCTIONS**

**FOR**

**SAFETY RECALL ALC**

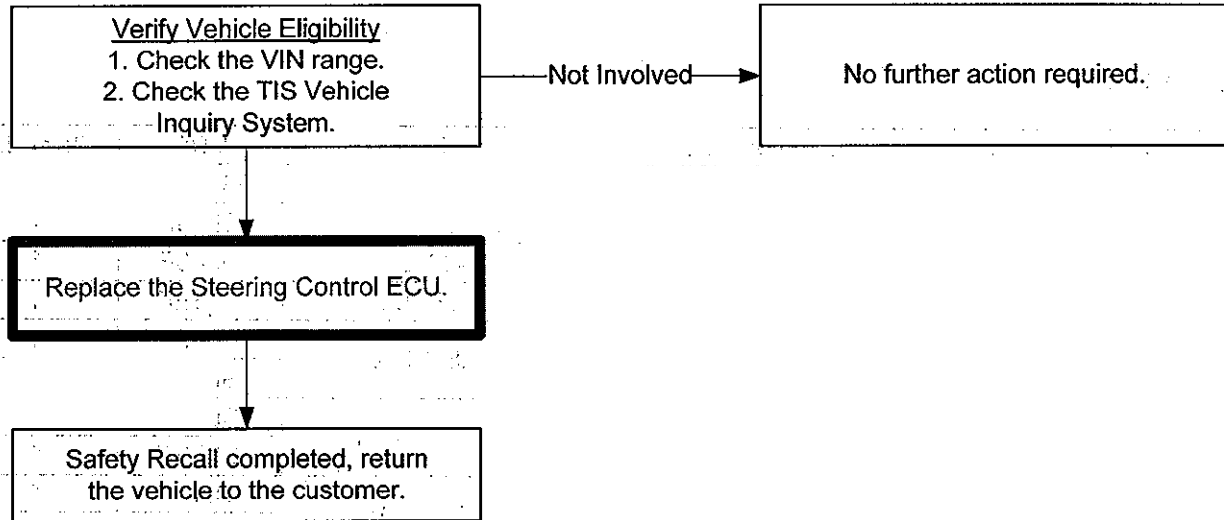
**STEERING CONTROL ECU REPLACEMENT  
ON VEHICLES EQUIPPED WITH VARIABLE GEAR STEERING  
(VGRS)**

**2009 - 2010 MODEL YEAR LS 460 AWD, 460 L & 460 L AWD  
2010 MODEL YEAR LS 460 & 600h L**

**NOTE:**

There are four 2007 model year LS 460 L vehicles affected that had the Steering Control ECU replaced under warranty. Refer to the "Identification of Affected Vehicles" for details.

## I. OPERATION FLOWCHART



## II. IDENTIFICATION OF AFFECTED VEHICLES

### A. AFFECTED VIN RANGE

| Model        | WMI | Year  | VIN Range |                   |
|--------------|-----|-------|-----------|-------------------|
|              |     |       | VDS       | Range             |
| LS 460       | JTH | 2010  | BL5EF     | 5094610 - 5099031 |
| LS 460 AWD   | JTH | 2009  | CL46F     | 5000462 - 5004625 |
|              |     | 2010  | CL1EF     | 5005866 - 5007811 |
| LS 460 L*    | JTH |       | 2009      | CL5EF             |
|              |     | 2010  |           | GL46F             |
| LS 460 L*    | JTH |       | 2010      | GL1EF             |
|              |     | GL5EF |           | 5038149 - 5040695 |
| LS 460 L AWD | JTH | 2009  | DL46F     | 5000964 - 5000976 |
|              |     | 2010  | DL1EF     | 5001281 - 5002321 |
| LS 600h L    | JTH |       | 2010      | DL5EF             |
|              |     | DU1EF |           | 5011084 - 5012817 |
| LS 600h L    | JTH | 2010  | DU5EF     | 5012468 - 5012561 |

\* The 2007 model year LS 460 L has the following four affected vehicles that had the Steering Control ECU replaced under warranty.

|                   |                   |                   |                   |
|-------------------|-------------------|-------------------|-------------------|
| JTHGL46F575010012 | JTHGL46F275002269 | JTHGL46F575001956 | JTHGL46F275000456 |
|-------------------|-------------------|-------------------|-------------------|

#### NOTE:

- Check the TIS Vehicle Inquiry System to confirm the VIN is involved in this Safety Recall, and that the campaign has not already been completed prior to dealer shipment or by another dealer.
- TMS warranty will not reimburse dealers for repairs conducted on vehicles that are not affected or

were completed by another dealer.

### III. PREPARATION

#### A. PARTS

| Part Number  | Part Description     | Model        | VDS    | Quantity |
|--------------|----------------------|--------------|--------|----------|
| 89181-50020  | Steering Control ECU | LS 460 L     | GL46F  | 1        |
| 89181-50090  | Steering Control ECU | LS 460 AWD   | CL46F  | 1        |
|              |                      | LS 460 L AWD | DL46F  | 1        |
| 89181-50130  | Steering Control ECU | LS 460       | BL5EF  | 1        |
| 89181-50170  | Steering Control ECU | LS 460 L     | GL1EF  | 1        |
|              |                      |              | GL5EF  | 1        |
| 89181-50190  | Steering Control ECU | LS 460 AWD   | CL1EF  | 1        |
|              |                      |              | CL5EF  | 1        |
|              |                      | LS 460 L AWD | DL1EF  | 1        |
|              |                      |              | DL5EF  | 1        |
| 89181-50210  | Steering Control ECU | LS 600h L    | DU1EF  | 1        |
|              |                      |              | DU5EF  | 1        |
| 89181-50230* | Steering Control ECU | LS 600h L    | DU5EF* | 1        |

\* This part number is applicable for Vehicle # JTHDU5EF5A5012468 ONLY. No other vehicle involved requires the use of this part.

#### B. TOOLS & EQUIPMENT

- Standard hand tools
- Techstream or Techstream Lite with v5.00.028 software
- Torque wrench

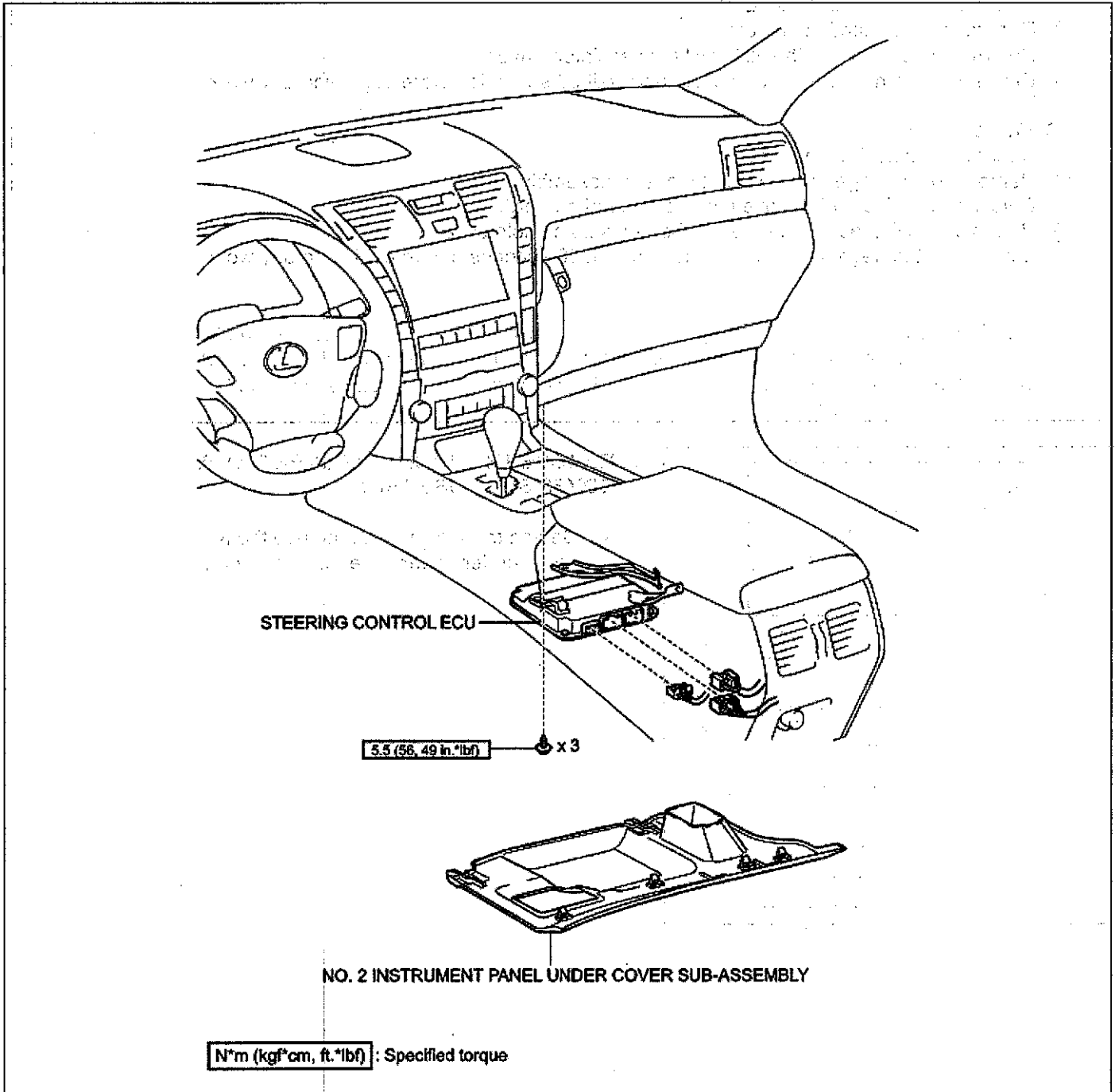
### IV. BACKGROUND

On certain late 2009 and 2010 model year Lexus LS 460 and LS 600h L vehicles equipped with Variable Gear Ration Steering (VGRS), under certain limited circumstances the steering wheel may temporarily become off-centered. In extreme conditions, it can be off-center by up to 90 degrees.

If the steering wheel is fully turned in one direction to the end of its travel (full lock position) and then very quickly turned in the opposite direction, the driver may observe that the center position of the steering wheel is temporarily off-center.

# V. WORK PROCEDURE

## A. COMPONENTS



## B. REPLACE THE STEERING CONTROL ECU

### 1. DISCONNECT THE NEGATIVE BATTERY CABLE

#### LS 460, 460 AWD, 460 L & 460 L AWD:

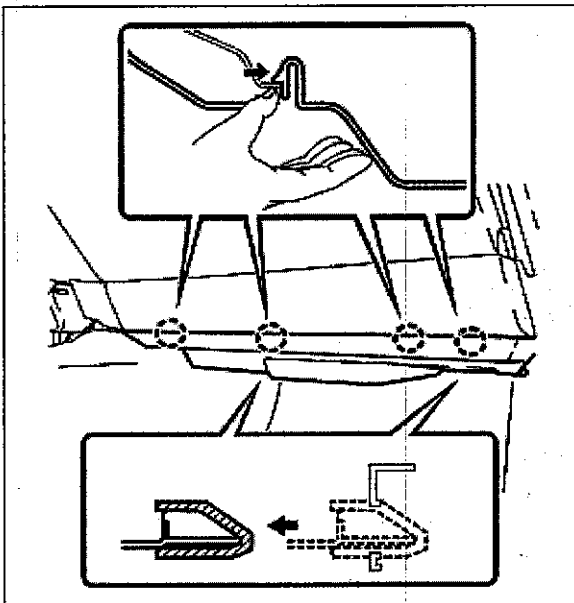
- Record the radio station presets.
- Remove the 6 clips and the RH cowl top ventilator louver.
- Disconnect the negative battery cable and wait 90 seconds before beginning any work.

#### LS 600h L:

- Record the radio station presets.
- Remove the luggage compartment mat sub-assembly.
- Detach the 2 clips and remove the deck side trim board.
- Remove the clip, fastening tape and battery service hole cover.
- Disconnect the negative battery cable and wait 90 seconds before beginning any work.

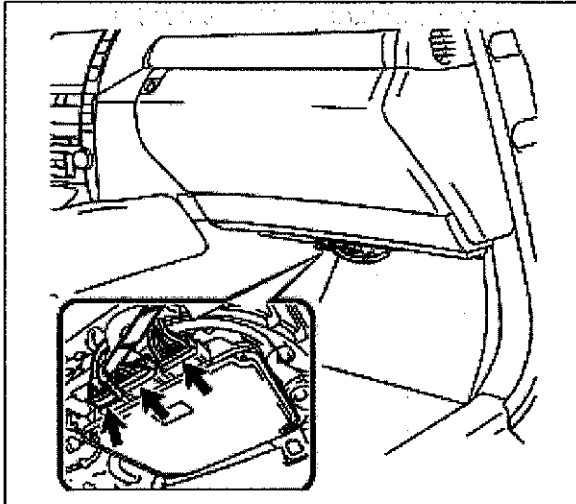
#### NOTE:

- DO NOT disconnect the negative (-) battery cable until 6 minutes have elapsed. The HDD navigation system requires approximately 6 minutes to save memory and settings, after turning OFF the ignition.
- Wait at least 90 seconds after disconnecting the negative (-) battery cable to prevent airbag and seat belt pretensioner deployment.



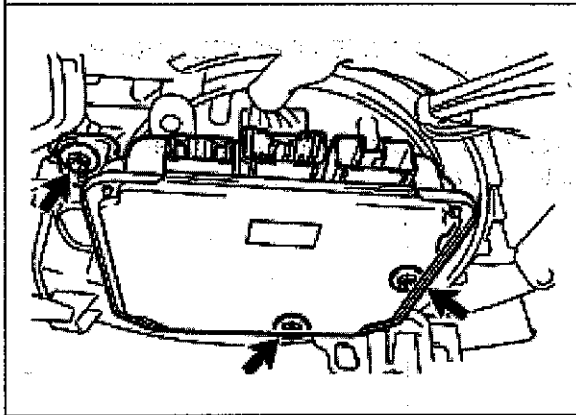
### 2. REMOVE THE NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

- Detach the 4 claws and remove the No. 2 instrument panel under cover sub-assembly.

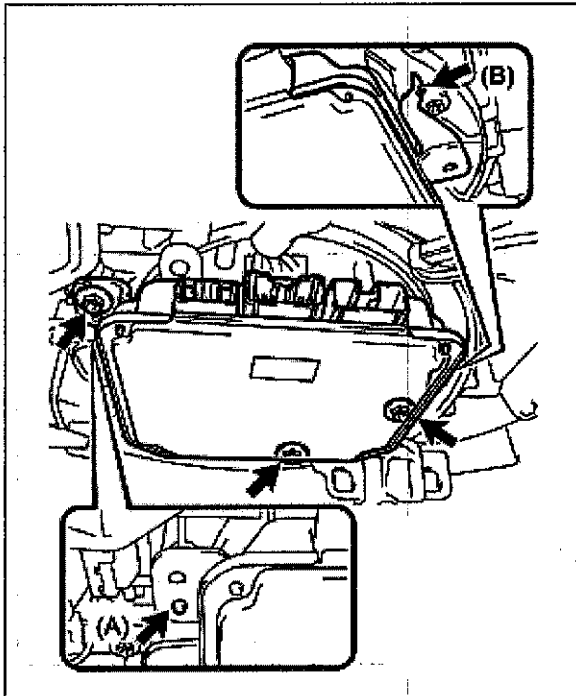


### 3. REMOVE THE STEERING CONTROL ECU

- a) Disconnect the 3 wire harness connectors.



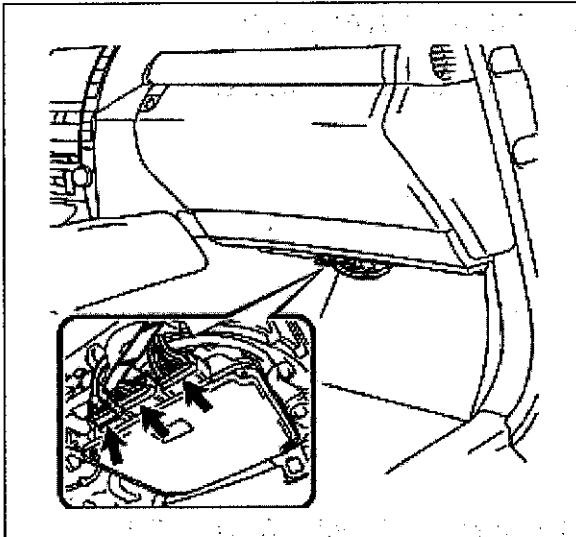
- b) Remove the 3 bolts and the Steering Control ECU.



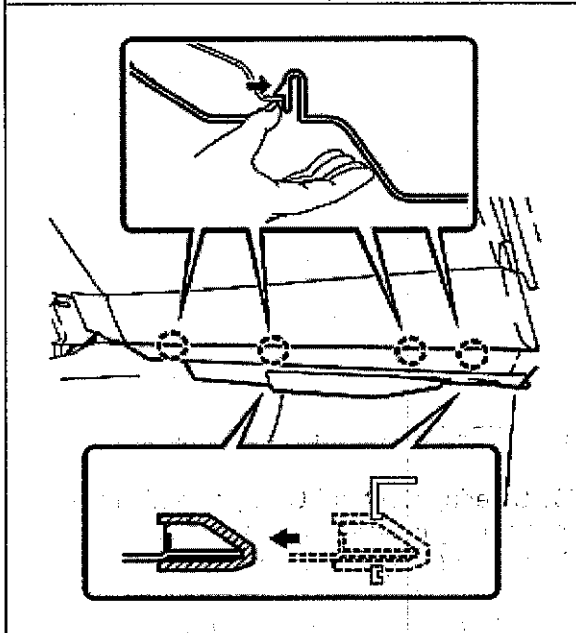
### 4. INSTALL THE *NEW* STEERING CONTROL ECU

- a) Mount the *NEW* Steering Control ECU by attaching the hook (B) and positioning the alignment hole (A).
- b) Reinstall the 3 bolts and torque to spec.

**Torque Spec: 5.5 N·m (56 kgf·cm, 49 in·lbf)**



- c) Reconnect the 3 Steering Control ECU wire harness connectors.



**5. REINSTALL THE NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY**

- a) Reinstall the No. 2 instrument panel under cover sub-assembly and the 4 claws.

**6. RECONNECT THE NEGATIVE BATTERY CABLE**

**LS 460, 460 AWD, 460 L & 460 L AWD:**

- a) Reconnect the negative battery cable.
- b) Reinstall the RH cowl top ventilator louver with the 6 clips.
- c) Set the radio station presets and the clock.

**LS 600h L:**

- a) Reconnect the negative battery cable.
- b) Reinstall the battery service hole cover with the fastening tape and clip.
- c) Reinstall the deck side trim board and attach the 2 clips.
- d) Reinstall the luggage compartment mat sub-assembly.
- e) Set the radio station presets and the clock.

**7. PERFORM VGRS SYSTEM CALIBRATION PROCEDURE**

- a) Follow the **“VGRS System Calibration Procedure (Using Techstream)”** outlined in the **“Steering Column: Variable Gear Ratio Steering System: Calibration”** section of the repair manual on TIS for the vehicle you are working on.

**8. PERFORM INITIALIZATION**

- a) Initialize all applicable vehicle systems as outlined in the **“Introduction: Repair Instruction: Initialization”** section of the repair manual on TIS for the vehicle you are working on.

**- CAMPAIGN COMPLETE -**